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In re Application of

Application Number

08/332,046

Filed

11/1/94

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Paper No. #55

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703-486-1150

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#55

(12) **United States Patent**  
**Winter et al.**

(10) Patent No.: **US 6,248,516 B1**  
 (45) Date of Patent: **Jun. 19, 2001**

(54) **SINGLE DOMAIN LIGANDS, RECEPTORS  
 COMPRISING SAID LIGANDS METHODS  
 FOR THEIR PRODUCTION, AND USE OF  
 SAID LIGANDS AND RECEPTORS**

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(73) Assignee: **Medical Research Council, London  
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(\*) Notice: Subject to any disclaimer, the term of this  
 patent is extended or adjusted under 35  
 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/470,031**

(22) Filed: **Jun. 6, 1995**

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#### Related U.S. Application Data

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 filed on Nov. 25, 1991, which is a division of application No.  
 07/580,374, filed on Sep. 11, 1990, now abandoned.

(30) **Foreign Application Priority Data**

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 Apr. 22, 1989 (GB) ..... 8909217  
 May 15, 1989 (GB) ..... 8911047  
 Jun. 2, 1989 (GB) ..... 8912652  
 Jun. 16, 1989 (GB) ..... 8913900  
 Aug. 15, 1989 (GB) ..... 8918543  
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(51) Int. Cl.<sup>7</sup> ..... **C12Q 1/68**

(52) U.S. Cl. .... **435/6; 435/69.6; 435/252.33;  
 435/441; 435/446**

(58) Field of Search ..... **435/240.2, 252.3,  
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 23.4, 23.5, 23.6**

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(57) **ABSTRACT**

The present invention relates to single domain ligands  
 derived from molecules in the immunoglobulin (Ig)  
 superfamily, receptors comprising at least one such ligand,  
 methods for cloning, amplifying and expressing DNA  
 sequences encoding such ligands, preferably using the poly-  
 merase chain reaction, methods for the use of said DNA  
 sequences in the production of Ig-type molecules and said  
 ligands or receptors, and the use of said ligands or receptors  
 in therapy, diagnosis and catalysis.

**21 Claims, 23 Drawing Sheets**